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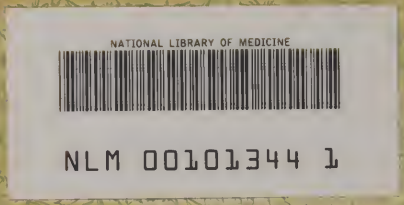
MASSAGE FOR NURSES.

GOLDSMITH.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MASSAGE FOR NURSES

BY

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WITH SIX ORIGINAL ILLUSTRATIONS

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PREFACE.

The writer's object in compiling this little book, is to give to nurses and others studying massage, a brief and comprehensive description of the different movements of massage, their effects and mode of application.

It has grown out of a need deeply felt by the author in teaching this work. The many books already existing upon this subject, are too vague and too diffuse, containing much historical and biographical matter which is of no benefit whatever to the busy nurse beginning the study of this work. I have taken as my authorities the best known writers on massage, among whom are Graham, Murrell, Hünerfauth, Schrieber, Roth, Taylor, Riebmayer and others, and have endeavored to make this book convenient in size and simple in language.

C. G.

Cincinnati, Ohio.

CONTENTS.

MASSAGE FOR NURSES.

PART I.

The word massage is derived, according to some authorities, from the Arabic word meaning to "press softly." According to others, it comes to us from the Greek, through the French, and simply means kneading, although kneading is only one of the many manipulations used.

By the term massage, we mean a group of procedures, which most writers class under four heads, namely: stroking, or effleurage; kneading, or petrissage; friction, or massage à friction; and percussion, or tapotement.

I give you these terms because you will meet with them constantly in books on this subject; but as physicians are not in the habit of using them, we will discard them, confining ourselves, for convenience's sake, to the simpler English terms.

You will find different writers using different terms to describe a variety of manipulations which are only modifications of the classes mentioned. Thus, Schreiber

speaks of "fulling," "pressing," "tapping," "hacking," "pinching," concussing," "stroking," "rubbing," "squeezing," etc. Other writers add clapping, fleau, pesamment, etc.

As Dr. Charles K. Mills points out, "the terms which are used to designate those who practice massage are somewhat awkward for English-speaking people. The proper term for a male operator is *masseur*, for a woman, *masseuse*, the plurals being *masseurs* and *masseuses*. The verb which expresses the performance of the procedure is *masser*. It is, therefore, proper to speak of a patient as being *masseèd* or of *masseèing* a patient. I would not advise the use either of massageing or of 'massacreing,' although the former is sometimes used by good authority."[1]

RULES TO BE OBSERVED BY THE MASSEUSE.

1. See to it that your clothes and person are scrupulously clean; that your clothes are loose and comfortable, without constricting bands of any kind, and allow freedom of motion, so as not to make your work more fatiguing than need be. This it will be, if your circulation is impeded by tight clothing, as a tight waist, tight sleeves, etc.

2. Your finger nails should be kept very short and clean, and your hands soft and smooth.

[1] "The Nervous and Insane," Mills.

3. Let your movements be easy and deliberate. Never move hurriedly in the presence of a nervous patient. Try to take an easy and comfortable position while working, for a constrained position will cause fatigue, and this will soon be noticed by your patient.

4. Do not let the temperature of the room be above 70 degrees. Some authorities claim that the temperature should be 75 degrees, but this is unnecessary and undesirable.

5. Learn to use both hands equally well, so as to be able to give the entire treatment, either from the right or the left side of the patient.

6. Before commencing the treatment, see to it that you have one or two extra blankets or shawls—one to work under, and one with which to cover the part that has been treated. Have these covers as light in weight, but as soft and warm, as possible. If too heavy, the cover interferes with the movements of the hands under it.

7. *Always work under cover.* Never expose the part on which you are working, as it is entirely unnecessary, and might lead to your patient taking cold. Do not use oil or grease of any kind, unless the physician prescribes it. Dr. Murrell says: "Dry rubbing is to be preferred, for the following reasons: (1) You get better contraction of the muscles, and consequently a greater flow of lymph; (2) Electrical currents are more readily devel-

oped in the tissues; (3) There is a greater elevation of the temperature in the part; (4) You do not make your patient in a mess." The use of oil on the bodies of your patients leaves them feeling greasy, chilly, and uncomfortable.

8. Always allow from one to two hours to elapse after a patient's meal before you give the treatment.

9. In giving treatment, let there be progression. Let the first treatment invariably be short and mild. Always suit the movements to the condition of the patient. If any one movement be disagreeable to a nervous or irritable patient, omit it and use some other in its place. As your patient becomes stronger and more accustomed to the treatment, add more and stronger movements. Never let the first treatment exceed half an hour in duration. You must be careful not to overdo, *i. e.*, not to fatigue your patients too much, during their first treatments. While you must guard against overdoing, you must be careful not to work superficially. In order to treat the whole surface of the body in half an hour, you can give but few movements. Of these, kneading is the most important. Therefore, give kneading and friction at first, then gradually add wringing, percussion, and passive movements, lastly making resistance to the flexion and extension of the joints. Let the treatments gradually increase in strength and duration, until the fullest desirable

extent is reached. This should *never* exceed one hour, nor cause the patient more than a slight feeling of fatigue, which is soon recovered from.

10. Resistive movements should always be carefully kept within the limits of the patient's strength.

11. If your patient be very weak, avoid repeated change of position, and do not ask her to move from one side of the bed to the other for your convenience, but learn to work from either side.

12. Begin at the extremities and work toward the trunk, directing your efforts mainly to the back, legs, and arms, unless you wish to give special treatment to some part (as for paralysis, constipation, etc.).

13. Divide the body into sections, working on and finishing with one part at a time.

14. Always place and *support* the limb that is being treated in a position midway between flexion and extension. This insures complete relaxation of the muscles. It is impossible to treat properly any muscle that is contracted or tense, as it will be if it be obliged to support the limb.

15. *Always have the legs flexed when treating the abdomen*, so as to relax as much as possible the abdominal walls.

16. In treating the back, be careful to have the arms in the proper position. "The position of the shoulder

blades is important, for if the upper arm be parallel with the side, then the posterior border of the shoulder blade will be so near the spinal column that scarcely any space will be allowed to work upon the muscles between the scapula and the spine. If the upper arm be stretched forward its full length, then the superficial muscles between the spine and the scapula will be so tense that those beneath can not be effectually reached by massage. Hence, the arms should be placed midway between these two positions."—(Graham.) In treating the back, work from above downward, *i. e.*, from the base of the brain to the sacrum.

17. Practice each separate movement carefully, until you can perform all easily; then apply and combine them.

18. The order in which the treatment is given is as follows: Kneading, Wringing, Friction, Percussion and Stroking. Then apply the movements to the joints (1) Flexion, (2) Extension, (3) Rotation.

19. In giving movements to the joints, it is of the utmost importance for you to know how to take hold of a limb. Upon this the efficacy of the movement depends. Unless you have the proper grasp, your own movements, as well as those of your patient, will be impeded, and the result will be jerky and impaired motions.

20. In giving a general massage treatment, allow yourself a definite period of time for the treatment of each

part of the body. But you can have no set rules, and will often find it necessary to vary the treatment in some way to suit the condition of the patient. The following synopsis will give you some idea as to the best general divisions:

ORDER OF MOVEMENTS IN GENERAL MASSAGE.

Leg.	Kneading, Wringing, Friction, Percussion, Stroking, Movements to Ankle, Knee and Hip Joint.	10 to 12 Minutes.
Arm.	Kneading, Wringing, Friction, Percussion, Stroking, Movements to Wrist, Elbow and Shoulder Joint.	5 to 8 Minutes.
Abdomen.	Rotary and Tranverse Kneading, Friction, Percussion and Stroking.	5 to 8 Minutes.

Back. { Kneading, Stripping, Friction, Percussion and Stroking. } 10 Minutes.

QUESTIONS.—PART I.

From what is the word massage derived?

Under what heads do we classify the various procedures of massage?

Give some of the names that different writers apply to these movements?

What do we call a man who gives massage?

What do we call a woman who gives massage?

What are the plurals of these?

What is the verb that expresses the procedure?

What is said of the clothes and person of the masseuse?

Why should the clothes be loose?

What is said of the finger nails and hands of the masseuse?

What is said of the manner of the masseuse?

What is said of the position of the masseuse while working?

What should the temperature of the patient's room be?

Why should the masseuse train both hands?

What preparations should you make before commencing a treatment?

What is said of the extra covers?

Why should you work under cover?

What is said of the use of oil?

Why is "dry rubbing" preferred?

What effect has oil when used on a large surface of the body?

How soon after meals is it safe to give a treatment?

What is said of first treatments?

What, if some movement be disagreeable?

How long should the first treatment last?

What must you guard against?

Which movements would you give first?

Which movements would you add later?

What is said of the time and effect of a thorough treatment?

What is said of resistive movements?

What is said of changing your patient's position?

Where should you begin the treatment in giving general massage?

How should you work?

In what position should you hold the limb while treating it?

What should you do to relax the abdominal muscles while treating them?

What is said of the position of the arms while treating the back?

In what position should the arms be?

What if the arms be parallel to the side?

What if the arms be stretched forward?

How do you work in treating the back?

What is said of practicing the movements?

In what order is treatment applied?

What is of greatest importance in giving movements to the joints? Why?

What is the treatment applied to the legs?

What is the treatment applied to the arm?

What is the treatment applied to the abdomen?

What is the treatment applied to the back?

What time is allowed for each?

PART II.

MOTIONS OF MASSAGE AND THEIR EFFECTS.

Stroking (or Effleurage.)

"Effleurage is a stroking movement, in the direction of the heart, the object being to act more particularly on the venous and lymphatic circulation in superficial parts, such as the skin, etc."—(Kellgren's Technic of Ling's System.)

"Effleurage is a stroking movement, made with the palm of the hand, passing with various degrees of force, over the surface, centripetally.

It is of little value in itself, but produces good results when combined in various ways, with other procedures to be presently described. It is essential, that the movement should be as much as possible, in the direction of the muscle fibers. It should never degenerate into mere rubbing."—(Murrell.)

Effects of Effleurage.

"Gentle stroking accelerates the circulation."—(Lee's Tracts on Massage.)

Increases insensible perspiration, and, according to Roth,[1] acts as a very important sedative on the nerves.

Kneading.

Kneading is an alternate pressure of the hands, combined with a rotary motion.

The tissues are rolled and squeezed, the pressure of the contracting hand, being in the direction of the return current of the circulation.

One hand contracts, while the other relaxes. If one contracts before the other is relaxed, it will cause the tissue to be stretched in opposite directions and give pain to the patient.

One hand describes the upper half of the rotary motion, while the other the lower. In all kneading, the hands move simultaneously, but in opposite directions, and follow each other, but are not lifted from the surface.

Do not use the tips of the fingers, but the cushions of the first joints, and the upper part of the second.

Kneading can be done in various ways, according to the surface to which it is applied.

(1.) It can be done with the ends of the fingers.

(2.) With the flexed hands opposing each other (as one hand on each side of the limb).

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[1] Dr. M. Roth. "Prevention and Cure of many Chronic Diseases by Movements.'

(3.) With the thumbs opposed to the fingers.

(4.) With the hands flat (on large surfaces, like the chest, abdomen and back).

(5.) With one hand flat on top of the other.

When kneading with one hand on either side of the limb, relax the thumb entirely, and make upward pressure with the heel of the hand.

Effects of Kneading.

Graham says: "The contracting hands of the manipulator are, as it were, two more propelling hearts at the peripheral end of the circulation, co-operating with the one at the center."

Blood and lymph vessels are alternately emptied and refilled. Venous circulation and re-absorption are increased. The skin becomes more flexible, and insensible perspiration is increased. The temperature of the part treated is raised one to two degrees, arterial pressure and nervous irritability are lessened.

"The muscle becomes larger, its volume increases, each fiber becomes stronger, and its functional capacity is thus increased, it contracts more rapidly and more vigorously."—(Lee's Tracts on Massage.)

Kneading is exceedingly agreeable to fatigued muscles.

"Under the influence of the organic combustions

which accompany muscular work, an excess of lactic acid is produced in muscle."[1]

This acid deposit is forced out of the muscle and taken up into the circulation by the kneading process. As the circulation is quickened by kneading, more blood is carried through the muscle, and the alkalinity of the blood neutralizes the acid and carries it off.

"Von Mosengeil has expressed the belief that the cellular elements detached by massage are absorbed—consumed as it were—digested by analogous cells."[2]

Dr. Murrell gives us Von Mosengeil's experiments, which are of great interest.

"He took a number of rabbits, and injected into the knee-joints a syringe full of India-ink. Massage was performed at intervals, on the right knee, but the left was left untouched. At the expiration of twenty-four hours or more, the animals were killed, and the tissues on both sides were carefully examined. The left knee-joints were distended with fluid, whilst on the right side, which had been manipulated, it had entirely disappeared. The lymphatic glands on the right were full of particles of India-ink; whilst the corresponding glands on the untreated side remained unaltered. The differences were so marked, as

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[1] Lagrange.—"Physiology of Bodily Exercise."

[2] Schreiber.—"Treatment by Massage."

to be visible to the naked eye. The conclusion arrived at, as the result of these, and a number of similar observations, was that massage promoted absorption by the lymphatics. It is probably in this way that effusions and other morbid products are removed."

"By accelerating the lymphatic and hæmic circulation, accumulation of fluid may be prevented; or if already present may be removed. Thus the *power of causing resorption* is another of its effects."—(Schreiber.)

Wringing.

This movement can only be applied to the extremities.

Grasp the arm with both hands, letting the first fingers and thumbs encircle the limb, the fingers of one hand resting within the fingers of the other hand.

Now make a wringing, squeezing movement around the arm, letting the thumbs pass each other, without pulling or pinching the tissues.

Begin at the wrist and work upward, the fingers and thumbs that grasp the limb, moving in circles around the arm, with a winding motion, up to the shoulder.

The same movement is applied to the legs.

Effect of Wringing.

This movement combines the effect of upward stroking and pressure. It acts on the skin like transverse friction, and stimulates the circulation.

Friction.

Always give friction parallel to the long axis of the limb. Hold the fingers close together but not rigid. "In almost every case, the upward strokes of the friction should be the stronger, yet the returning or downward movement may, with benefit lightly graze the surface, imparting a soothing influence without being so vigorous as to retard the circulation, pushed along by the upward stroke."

"The manner in which a carpenter uses a plane represents this forward and return motion very well."—(Graham.)

Effect of Friction.

"Frictions are used locally, in order to increase the temperature, activity and absorption of the skin and adjacent parts."—(Roth.)

Percussion.

Percussion can be done in various ways:

(1.) With the ulnar borders of the hands and fingers.

(2.) With the tips of the fingers (as on the chest).

(3.) With the palms of the hands.

(4.) "With the hands flexed, so as to contain, when brought in contact with the surface of the body, a cushion of air."—(Murrell.)

It is used on muscles and nerves. Let the blows be short and springy. Strike the blows transversely *across the*

muscles; excepting on the back; here let the blows be struck *parallel to the spinal column.*

Percussion may be simultaneous or alternate. In palmar percussion the blows may be simultaneous, one hand striking on either side of the limb. On the chest and in ulnar border percussion, the blows *must always alternate.*

In percussing, see to it that the blows are struck from the wrist, the wrist joint and joints of the fingers being free, *i. e.*, very loose.

In ulnar percussion, the fingers are slightly flexed and fall on the surface with springy elastic blows. It is entirely a wrist motion.

Practice this motion by laying the ulnar border of the forearm and hand on a pillow or cushion, with the fingers slightly flexed, and *work from the wrist*, striking the blows alternately.

Do not let all the fingers strike the surface at the same time, but turn the hand slightly, at the wrist, with each downward stroke, so that the fingers strike one after the other, but following each other so rapidly that the difference in time is almost imperceptible.

Do not practice this on a hard or too solid surface, as it will, in that case, make the fingers feel sore.

While percussing on one side of a limb, be sure that the opposite side is supported.

Never strike the spinal column, nor any other bone, while percussing.

Effects of Percussion.

In its effects it is related to vibration and intermittent pressure.

"That mere mechanical vibration of a muscle is alone capable of generating heat, has been recently proved by the interesting experiments of Danilewsky." —(Schreiber.)

Percussion, for a brief space of time, causes the blood-vessels to contract. When muscle fiber is stimulated mechanically to contract, it shortens and thickens, and the lymph in the spaces immediately surrounding it is driven onward.

In applying percussion, take into consideration the force, the frequency, duration, and localization of blows.

From Lee's "Tracts on Massage," I quote the following: "By brief percussion of any part of the body, the vessels of the part may at first be thrown into a condition of contraction, but on the contrary, if the percussion be continued for a considerable period, dilation of the walls of the vessels is produced, which may finally be pushed to the extent of paralysis of their muscular coats."

Percussion, applied for a long period of time, or too forcibly, will cause the muscles to feel lame and sore.

Therefore alternate it with kneading, when using it as a single form of treatment.

Always follow percussion by light downward stroking (centrifugal effleurage), which has a soothing effect, as it allays the irritation of the cutaneous nerves. This stroking should *never be omitted after percussion.*

QUESTIONS.—PART II.

Define stroking or effleurage.

What is its object?

Give an illustration of this movement.

What is Murrell's definition of stroking?

What is said of its value?

What is its value when combined with other movements?

In what direction should it be given?

What is the effect of stroking?

What is kneading?

Give some of the general rules for kneading.

What are the different ways of kneading?

Give an illustration of each of these kneading movements.

To what does Graham compare the hands when kneading?

What effect has kneading on the circulation?

What effect has it on the skin; on the nerves; on a muscle?

What effect has kneading on fatigued muscles? Why?

Give Von Mosengeil's experiment.

What does it prove?

Where can wringing be applied?

Describe this movement.

In which direction should you work?

Give an illustration of this movement.

What is the effect of wringing?

What is its effect on the skin?

How should you apply friction?

How should the fingers be held?

Give an illustration of this movement.

What is the difference between the upward and the downward stroke?

What should the character of the downward stroke be?

What should you guard against in the downward stroke?

Why do we use friction?

How many ways of doing percussion are mentioned?

Give an illustration of each.

Where is percussion used?

What should the character of the blows be?

How and where should the blows be struck?

When may percussion be simultaneous?

When must the blows alternate?

How should the wrist and joints of the fingers be held while percussing?

How should you practice this movement?

What is said of supporting the limb while percussing?

What must you avoid while percussing?

What is the effect of percussion?

What is the effect of percussing for a brief space of time?

What happens when muscle fiber contracts?

What must you consider when applying percussion?

What effect has prolonged percussion on a part?

When does percussion cause soreness?

How can it be prevented?

Why should stroking always follow percussion?

PART III.

MOVEMENTS.

The Swedish system of gymnastics or movements is divided into five branches. (1.) Educational. (2.) Hygienic. (3.) Medical. (4.) Æsthetic. (5.) Military.

Hygienic and educational gymnastics are used to develop the body, to keep up its functional activity, and to preserve its health and vigor.

Medical gymnastics are used to counteract pathological conditions. Among medical gymnastics we regard passive, assistive and resistive movements as of most importance.

"A passive movement is one which is executed on the patient, or with a part of him, the patient being entirely at rest."—(Kellgren.)

An assistive movement is one in which the operator assists the patient to carry out a movement (as in partial paralysis).

A resistive movement is one in which the operator resists the patient, or the patient resists the operator. These movements are again divided and subdivided into the active-passive (duplicated concentric), and the passive-active (duplicated eccentric), etc.

To those who wish to study the various movements of the Swedish system of remedial gymnastics, I would recommend the writings of Taylor, Roth, Hünerfauth, Schreiber, etc.

In the general application of massage, as we are using the term, we are interested mainly in passive and resistive motions of the joints of the upper and lower extremities. These are flexion, extension, rotation and circumduction.

To give rotation you turn a limb on its own axis. A rotation of the wrist joint would be performed by taking hold of the hand and fixing the arm, near the wrist; then make the hand describe a circle at this joint. The same is done at the ankle joint.

In circumduction you turn a limb around an imaginary cone. The base of the cone is at the free end of the part moving; the apex at the joint to which the movement extends.

Fix the joint to be moved by placing one hand just above it, the other hand on the limb to be moved.

As examples of this movement, we have circumduction of the hip and shoulder joints. Rotation and circumduction should always be passive movements. Let the circles described be from right to left and reverse.

In giving either passive or resistive movements, take a gentle but firm and steady hold. Let your patients feel that you have them well in hand. Make the movements

slowly and steadily, being very careful to avoid jerking and pulling.

"Except in the case of relaxed joints, passive movements should be pushed until there is a feeling of slight resistance to both patient and manipulator; for by this it will be known that in healthy joints the ligaments, capsules and attachments of the muscles and fasciæ are being acted upon."—(Graham.)

In passive circumduction, the veins around the joint are alternately distended and contracted, increasing the circulation of the blood through them. Waste matter in the venous circulation is carried off with greater speed. The passive movement causes a vibration in every part of the limb, from end to end, thereby increasing venous absorption. Adhesions are removed and mobility of the joint increased.

Lee says: "Not only the flow of lymph, however, but also the return of the venous blood is accelerated by means of these movements. The position of the small veins between the muscles and the fascia, operating in connection with their valvular provision, causes the muscular contractions to act like suction pumps, forcing the blood into the larger vessels. As far as the great venous trunks are concerned, Braune's investigations have made known the fact, that the fascia in the neighborhood of Poupart's ligament are so arranged that the movements of

the hip joint act by suction upon the blood contained in the crural vein and thus aids the circulation in the lower extremities. A similar suction apparatus composed of muscle and fascia, is found in the upper extremity, just beneath the clavicle."—(Herzog.)

Resistive Movements.

"In doing resistive movements in which the patient is the prime mover, the operator waits till he finds the movement begun; then gradually increases the resistance to the utmost, within the limits of the patient's strength and finally slacks up more slowly."—(Graham.)

Resistive exercises cause an afflux of blood to the acting muscles; they increase glandular secretion, general nutrition and elimination.

QUESTIONS.—PART III.

Into how many branches is the Swedish system of movements divided?

Name them.

For what are hygienic movements used?

For what are medical movements used?

Into what kinds of movements are the medical gymnastics subdivided?

What is a passive movement?

What is an assistive movement?

What is a resistive movement?

In what kinds of movements are we especially interested?

How would you give rotation to the wrist joint?

What is circumduction?

How would you fix a joint to confine motion to it?

How should rotation and circumduction be?

What of the circles to be described?

What is said of the hold taken?

How should the movements be made?

How far should passive movements be pushed?

What is the exception to this rule?

What do we gain by pushing movements to this extent?

What effect has passive circumduction on the veins around the joint?

What effect has it on the limb?

What effect has it on the joint?

What does Lee say of the effect of this movement?

What is the action of muscular contraction, during circumduction, compared to?

Where do we find this action?

How should you make resistance to a movement?

What effect have resistive movements?

PART IV.

GENERAL MASSAGE.

By a general massage treatment, we mean the application of massage to the surface of the body, omitting the head and face, and including passive or resistive movements of the joints of the arms and legs.

The application of massage to the head, is usually classed with "local massage."

To give a general treatment, prepare your patient by taking off all clothing, except the night dress or a flannel wrapper. Have the patient lying on a bed, or couch, in a comfortable position, the head and chest raised a little, but not to a sitting position.

I have always found it more convenient to begin at the feet, for by so doing, the upper part of the body may remain clothed, until you are ready to treat it, whereas, if you commence with the arms, you must take off your patient's night dress at once; and you must then either leave it off, till the lower extremities are treated, and you are ready to treat the back, or you must put it on and off

repeatedly, causing an unnecessary amount of work, and loss of time for yourself, and a great deal of useless handling and harmful fatigue for your patient.

Have your patient lying as near to the edge of the bed, or couch, as is comfortable for her, and have the extra shawls or coverings at hand.

Seat yourself near the foot of the bed, and close to it. Take the bed clothes off the leg on which you are going to work, and cover it with the extra blanket, tucking one end of it under the heel of the foot.

The foot.—Now grasp the foot, keeping the hands at right angles to it, one on the instep, the other on the sole of the foot. Knead the sole of the foot, with the heel of the hand, while steadying it with the hand on the instep. Then, apply friction to the foot. Keep the hands in the same position, but work with both, letting one move up, while the other moves down. Give this movement rapidly and vigorously.

Grasp the foot, just below the toes, with both hands, and knead it, the thumbs on top of the foot, the fingers on the sole. Around the ankle joint, knead deeply and carefully, with the ends of the fingers (the latter being held in easy extension). Behind this joint, the motion resembles an upward, pushing movement of the fingers.

Grasp the tissues at the heel, by letting it rest in your

hand; and with a circular motion rub the tissues against the bone, underneath.

The Leg.—Now flex the knee joint slightly, and knead the leg from the ankle up to the knee, working deeply, and well under the knee, and around the knee cap, but being very careful not to draw the skin away from the bone, or attempt to stretch the tissues in opposite directions, at the same time. You should guard against this especially at the flexures of the joints, where the skin is thin.

Now go back to the ankle and repeat the kneading about three or four times. Then give the wringing motion, from the ankle to the knee, about three times, and follow this by friction.

To give friction to the leg, place the hands, side by side; the fingers extended and close together; then work rapidly and vigorously up to the knee; bring the hands down to the ankle, but toward the back of the leg, and continue till you have treated the whole surface.

Now give percussion. Steady the outside of the leg while you percuss the inside from the *knee down to the ankle;* then rest the inside of the leg against the other leg, and percuss the outside. Follow the percussion by light downward stroking.

The passive movements are now given to the ankle joint. Grasp the left foot by placing the palm of the right

hand against the ball of the foot, the fingers encircling the foot and resting below the toes on the instep, the left hand steadying and supporting the leg just above the ankle as in Fig. 1.

FIG. 1.

Bend and stretch (*i. e.*, flex and extend) the ankle joint in this position. The same grasp answers for resistive flexion and extension.

To resist extension, tell the patient to "stretch the foot," and at the same time offer carefully graded resistance with the palm of the right hand against the sole of the foot. Now, without changing the position of the hand, tell the patient to "bend the foot," while you resist flexion with the fingers resting on the instep of the foot. Repeat this alternate flexion and extension as often as necessary, and follow it with rotation.

To give rotation, slide the supporting (left) hand down and let the heel rest in it, while you turn the foot with the right hand, making the toes describe circles from right to left, and reverse. Now cover the foot and leg and treat the thigh.

The thigh.—Keep the knee well bent, and support the foot against a pillow, or rest the lower part of the leg against yourself. Have it covered with the light blanket under which you are working, and knead from the knee to the hip. Keep the hands near each other while kneading; not, however, close enough to interfere with their free movements. Knead first the top, then the sides of the thigh from the knee upward. While kneading near the hip, let your patient shift the weight of the body to the opposite hip, *but not turn*, just freeing the joint sufficiently to allow your hand to work under and around it.

Then give the wringing motion, from the knee to the hip, then friction from the knee to the hip. Percussion and

stroking, which follow, are given from the hip to the knee. Flexion and extension can be given to the knee and hip joint at the same time, and should be followed by circumduction of the hip joint.

FIG. 2.

To flex and extend the knee and hip joint, cover the whole leg with the shawl or blanket, and be sure the foot is covered. Grasp the covered foot is such a way that it rests in your left hand, the heel against the palm of the hand, the fingers supporting the heel below. The right hand grasps and supports the calf of the leg just below the knee as in Fig. 2.

Now bend and stretch the knee by raising the leg and bringing the knee upward as near to the trunk as the comfort of your patient permits, then letting the leg down again to its full length on the bed; the patient remaining passive all the time.

FIG. 3.

Repeat this a number of times, and then, without changing your hold (or by removing the right hand from below the knee and placing it on top of the knee), make the knee describe circles from right to left and back again as in Fig. 3.

To give this circumduction, let the knee be bent, and the thigh at a right angle to the trunk, make the circles slowly and as large as possible, but be very careful to keep the motion easy, smooth and steady, never letting it be jerky.

Instruct the patient to withdraw all energy from the joint, and not attempt to help you, for that would interfere with the motion which *must remain passive.*

To give resistive flexion and extension to the hip and knee joint, take hold of the foot as if for passive flexion and extension. The grasp on the leg is changed though, for instead of supporting the leg by the right hand being placed under it, the hand rests on the leg just above the knee joint. Tell your patient to "draw up the knee" while you offer resistance with the hand that is on the leg. Then tell your patient to "straighten the leg," while you resist with the left hand against the sole of the foot. Make flexion and extension alternately, and repeat from two to six times, according to the strength and condition of the patient. Follow this with circumduction of the hip joint.

One leg having had its treatment, let it rest in a comfortable position, cover it well, and treat the other leg in the same way. Then draw up the bed clothes, covering your patient carefully, up to the chin if desired, and slip one sleeve of the night dress from the arm you wish to treat next.

The fingers.—To treat the arm begin with the fingers. Support your patient's hand in one of your own (usually your left hand). Take up one finger, place your thumb on one side of it and parallel to it, while opposite the thumb your index finger rests. Grasp the finger firmly, and with a pushing, winding motion, strip down the finger from the nail to the hand and sliding back lightly to the nail, repeat the motion three or four times. Treat each finger in this way, then the hand.

The hand.—Let the palm of your patient's hand rest between both of yours, while the hand which is on top makes a rotary pressure with the palm—your supporting hand making mild counterpressure, thus squeezing and manipulating the hand thoroughly and agreeably.

Then rest the back of your patient's hand in the palm of your hand, and with the ends of the fingers of your unemployed hand knead the palm vigorously with a circular motion of the fingers.

Now grasp the hand in both of yours, the thumbs on the back of the hand, and knead from the fingers up the arm to the shoulder.

The arm.—Repeat this kneading motion three or four times from the third joint of the fingers up over the wrist and elbow joints to the shoulder. Work deeply and carefully around the joints.

On the shoulder lay the hands flat, rolling and pressing the tissues against the bones underneath.

Now apply the wringing movements from the wrist to the shoulder, then the friction, followed by precussion from the shoulder to the wrist with centrifugal stroking.

Remember that percussion is applicable only over muscular masses, and the blows *must be struck transversely* across the muscle, therefore be sure the bones are not struck while treating the arm.

Now give the passive or resistive movements, remembering that in giving these motions to a joint, you must steady the part just above and close to it, but not near enough to interfere with the full and free motions of the part that is being moved.

To give passive flexion, extension and rotation to the wrist joint, grasp your patient's right arm about one inch above the wrist with your left hand, and with your right hand hold your patient's hand, palm toward you, letting the fingers of your right hand cross the back of the hand while your thumb rests across the palm, just below the fingers as in Fig. 4.

Bend and stretch the hand in this position. The same hold answers for resistive flexion and extension, and rotation of the wrist joint.

FIG. 4.

To resist flexion, tell your patient to "bend the hand forward," while you resist with the thumb on the palm; then tell her to "raise the hand," while you resist with the fingers across the back of the hand.

Now give rotation by making the hand describe circles from right to left and reverse.

Now give flexion and extension of the elbow joint. Steady the upper arm, just above the elbow joint, with your left hand while your right hand grasps the arm just above the wrist joint as in Fig. 5.

Now bend and stretch the arm passively, always keeping the hand in supination.

To make this movement resistive, oppose your patient's motions without changing the position.

To resist flexion, tell your patient to "bend the arm and draw the hand to the shoulder" during which time you resist with your fingers resting on the wrist; then ask her to "stretch the arm," while you resist with the heel of the hand.

For circumduction of the shoulder joint, *take hold of the back* of your patient's *right hand* with *your* left, flex the elbow until the arm is bent at a right angle, the upper arm elevated, and the forearm parallel with the shoulders. Support the elbow joint with the palm of your right hand (just as you would the knee for hip circling), and make the

FIG. 5.

elbow move in circles from right to left, and reverse as in Fig. 6.

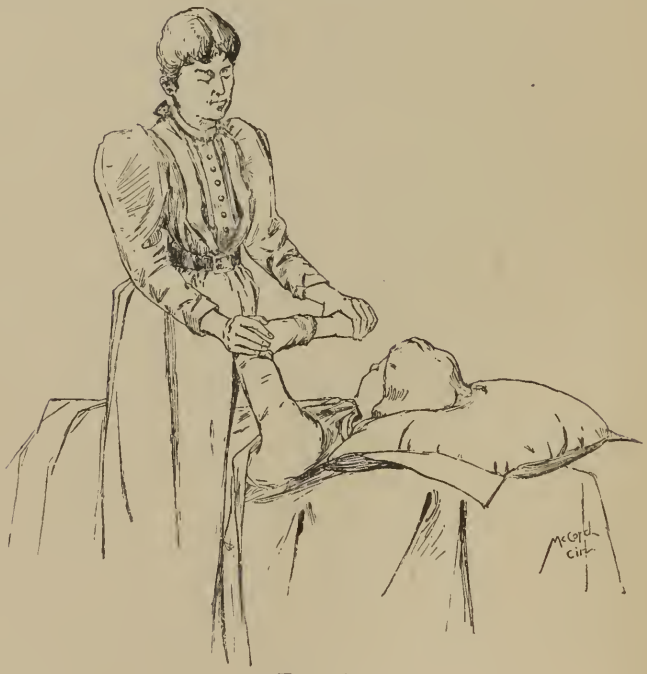

FIG. 6.

One of the effects of arm circumduction is that it increases the expansion of the chest by its action on the pectoral muscles.

To give passive or resistive pronation and supination,

take your patient's hand as if to "shake hands," while you support the arm just above the elbow joint with your disengaged hand, and turn the hand first palm up (supination), then back up (pronation). This movement makes the bones of the forearm rotate around each other.

To make the movement resistive, tell your patient to "turn *your* hand over," while you resist. Always be careful to wait till you feel that the movement is commenced, then offer carefully graded resistance. Treat the left arm as you did the right.

Now, treat the trunk.

The neck.—Commence on the neck. Place the fingers behind the ear, one on each side of the neck, and knead with the ends of the fingers, down each side of the neck, and out to the shoulders, being very careful to make the pressure of the hands alternate. Repeat this movement three or four times, then follow it by stroking.

Commence under and slightly back of the ear and stroke downward, slowly, along the course of the sterno cleido mastoid muscle and out to the shoulders. In giving this movement, guard against making pressure on the trachea or larynx, as that would give discomfort to your patient.

The chest.—Place the hands flat, one on each side of the chest, as near the shoulders as possible, and knead with the flat hands, toward the sternum and down over it.

Be very careful to have your hands moving *alternately* in treating the chest. Repeat this about three times and follow it by friction.

Then give *light* percussion. Give it with the finger tips, and follow it with stroking. Always omit percussion if there is any irritation of the lungs or bronchial tubes, as it is apt to make your patient cough.

The stomach.—Standing to the right of your patient (who has the legs flexed, to relax the abdominal muscles), stroke with the fingers of the left hand, from the sternum down over the region of the stomach. The fingers of the right hand rest on the ribs (on the left side of the chest) while you knead with the heel of the hand from the sternum down and under the floating ribs. (The greater curve of the stomach is to the left.)

The order in which this movement is carried out is: first stroke with the fingers, then give the circular motion with the right hand, etc., alternating the two motions, as long as desirable.

The abdomen.—Have your patient flat on the back, with knees well drawn up. Place both hands on the abdomen, as far down as covenient, and knead with the flat hands, from below upward.

Then begin on the right side, as far down as possible, and knead with the finger ends upward, following the ascending colon, then across the abdomen, following the

transverse colon, and down on the left side over the descending colon.

The ascending colon lies on the right side; the transverse colon crosses the upper part of the abdomen,* about three inches above the umbilicus; the descending colon lies on the left side.

Another kneading motion for the abdomen, is done by closing the fingers on the palm, the thumbs turned in and held down by the fingers. Now knead, as you would knead bread, but always upward when giving *general* kneading to the abdomen.

Now, place the palms of the hands on either side of the abdomen, just above the pelvic bones, and make alternate pressure on the sides.

Friction may be made by an upward stroke with the left hand (on the right side of the abdomen), then without taking off the hand, continue the pushing stroke across the abdomen to the left side; here let the right hand begin the motion and continue the stroke downward on the left side, thus following the course of the bowel.

Give percussion lightly, and with the hand flexed, so as to contain a cushion of air, when brought into contact with the surface. Do this lightly and gently. Effect.—It

* Gray's Anatomy.

will cause vibrations through the pelvis and stimulate the nerves and circulation.

The back.—In treating the back, *be sure* your patient's arms are in the proper position. This position is desribed in Rule 16, Part I.

When your patient is properly placed begin to knead with your finger ends, from the base of the skull, over the spine of the scapula.

Then, starting again, as far up as possible, lay the hands flat, one on each side of the spine, and knead with both hands, in a circular manner, alternately, one hand describing the upper part of the circular motion, while the other describes the lower.

Now, the right hand can be laid flat, across one side of the back, while the left hand covers the right one, and makes pressure on it. With the hands in this position, knead slowly, making deep pressure.

Now knead (with the ends of the fingers) one hand on either side of the spinal column and close to it, from the base of the brain down to the sacrum.

Now give the movement that corresponds to the wringing motion. Put the finger ends of one hand on either side of the spinal column, and while making deep pressure strip the muscles traversely, the hands moving from the spine toward the shoulders and back to the spine again. During the return movement the hand glides

lightly over the skin, while in the outward movement it exerts deep pressure.

Now apply a longitudinal stripping motion by placing the index finger of the right hand on one side of the spine (and close to it), while the second finger is placed opposite. Make pressure with your left hand on these fingers and strip downward from the head to the sacrum.

Place the ends of the fingers and part of their palmar surfaces on either side of the spinous processes, and apply friction by making rapid up and down strokes parallel to the spine.

Now give percussion with the ulnar borders of the fingers, parallel to the spine, and change quickly to percussion with the flexed hand. The latter is done more lightly, and is followed by downward stroking. Each of these movements can be repeated three or four times.

Massage of the back lessens spinal congestion, fatigue, and nerve prostration.

Practice all movements carefully, study their effect and application, then combine and use them according to the requirements of the case.

QUESTIONS, PART IV.

What is meant by a general massage treatment?

How should you prepare your patient?

In what position?

Where begin the treatment? Why?

What must you have in readiness?

How do you begin?

What is the first movement given to the foot?

What is the second?

How would you apply it?

What is the third movement for the foot?

How should you treat the ankle joint?

How should you treat the heel?

What follows this?

How would you begin?

What should you observe in kneading the leg?

What must you guard against?

What follows the kneading motion?

How is it applied?

What is the next motion?

How is it applied?

What follows now?

What is the first thing to observe in giving percussion?

How is it applied?

What follows percussion?

How would you give passive flexion and extension to the ankle joint?

Give an illustration of the hold taken.

What would you ask your patient to do if you wished to resist *extension?*

What, if flexion of the ankle joint?

Give illustrations.

What movement always follows?

Illustrate it.

What is done now?

What is the position of the leg while treating the thigh?

How are the hands held while kneading the thigh?

How treat the muscles over the hip joint?

What movement follows kneading?

Give the rest in the order in which they follow.

What passive motions are given to the joints?

How would you grasp the leg to give passive flexion and extension to the knee and hip?

Give an illustration.

How do you give circumduction to the hip joint?

Give an illustration.

What must you impress upon your patient when giving circumduction of the hip joint?

What must you guard against?

How do you give resistive flexion and extension to the hip and knee?

Give an illustration.

What do you ask your patient to do if you wish to resist flexion of the hip?

What if extension is to be resisted?

What part is to be treated next?

Where do you begin?

Give an illustration of how you would treat a finger.

What is the first movement given to the hand?

What is the second?

What is the third?

What is the first part of the treatment applied to the arm?

What is to be especially observed?

How is the shoulder treated?

What are the next movements given?

How is percussion applied?

What is the position of the arm while percussing it?

How should you fix a joint when giving motions to it?

How should you hold the arm for passive flexion, extension, and rotation of the wrist joint?

Give an illustration of these movements.

How would you give resistive flexion and extension of the wrist joint?

What movements do we give to the elbow?

Give illustration of passive movements of the elbow?

What do you ask of your patients when you wish to resist flexion of the elbow joint? What when extension?

What is the position of the arm for circumduction of the shoulder joint?

Illustrate the grasp and motion.

What is one of the effects of arm circling?

How would you give passive pronation and supination to the hand?

How resistive? Illustrate.

Describe the first movement applied to the neck. The second.

What must you guard against in treating the neck?

How and where begin the treatment of the chest?

What movements follow?

How would you apply percussion here?

When omit it? Why?

What is the position of the patient and operator when treating the stomach?

What is the movement used for the stomach?

Where is it applied? Why?

Which part of the movement is given with the right hand?

Where does it rest while working?

What should be the position of your patient while treating the abdomen?

How do you begin?

What is the next movement given.

What is the object of this movement?

Where do we find the ascending, transverse and descending colon?

Illustrate other kneading movements for the abdomen.

How would you apply friction to the abdomen?

How would you apply percussion?

What is one effect of percussion of the abdomen?

What should be the character of the movements in abdominal massage?

What must be avoided?

What is the object of the treatment?

What is said of the position of the arms in treating the back?

What is the correct position?

What and where is the first movement applied?

How would you knead the back?

What is the second kneading movement given?

How and where knead with the ends of the fingers?

Describe the movement that corresponds to the wringing motion.

How should the hands move in giving this motion?

Describe the second stripping movement.

How would you apply friction to the back?

How would you give percussion?

What is the effect of massage of the back?

What is said of all movements?

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